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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/642,785	08/22/2000	Woo Nam Jeong	2658-0166p	2432

7590

04/23/2003

Birch Stewart Kolasch & Birch LLP
P O Box 747
Falls Church, VA 22040-0747

EXAMINER

NGUYEN, HOAN C

ART UNIT PAPER NUMBER

2871

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/642,785

Applicant(s)

JEONG ET AL.

Examiner

HOAN C. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 25 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 16-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Response to Amendment

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Response to Arguments

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Applicant provides the English translation of priority of Korea P99-35502 filed August 25, 1999 to overcome the prior art rejection over Choi (US6326641B1) filed Nov. 24, 1999.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-2, 4-14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Go et al. (US5955744A) in view of Stupp et al. (US5305128A).

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Go et al. teach (Figs. 3-8)

In regard to claim 1, Go et al. disclose (Figs. 3 and 6) a liquid crystal display device comprising:

- a gate line 7 connected to an integrally formed gate electrode 4;
- a data line 5 crossing the gate line and connected to an integrally formed source electrode;
- a protective film 33 formed on the gate line and on the data line;
- a pixel electrode 3 formed on the protective film and connected to a drain electrode,
- a first portion of the pixel electrode overlapping the data line (Fig. 6)
- a storage electrode 38 connected to the pixel electrode and overlapping the gate line.

wherein

- a portion of the storage electrode 12 is laterally spaced a second distance from the data line according to claim 2.
- the first portion of the pixel electrode and the portion of the storage electrode are located in at least one corner of the pixel electrode according to claim 4.
- a second portion of the pixel electrode overlaps a data line adjacent to the data line overlapped by the first portion of the pixel electrode according to claim 5.
- the first and second portions of the pixel electrode extends along an entire side of the pixel electrode according claims 6 and 7.

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- the pixel electrode includes: a gate overlapping part overlapping a gate line on a side of the pixel electrode opposite from the storage electrode according to claim 10.
- the pixel electrode includes four sides and four corners, two of the four sides laterally overlapping adjacent data lines; and at least one of the four sides laterally overlaps a gate line according to claims 11 and 12.
- the protection layer 33 is an organic film made of Benzocyclobutene (BCB) having a dielectric constant less than 3.0 according to claims 13 and 14..

In regard to claims 8 and 9, Go et al. disclose (Figs. 3 and 6) a liquid crystal display device comprising the storage electrode 12 is integral to the pixel electrode 3 at a contact hole 38.

In regard to claim 15, Go et al. disclose (Figs. 3 and 6) a liquid crystal display device comprising:

- a gate line 7 connected to an integrally formed gate electrode 4;
- a data line 5 crossing the gate line, and connected to an integrally formed source electrode;
- a protective film 33 formed on the gate line and on the data line;
- a pixel electrode 3 formed on the protective film and connected to a drain electrode, a portion of the pixel electrode overlapping the data line;

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- a storage electrode 12 connected to the pixel electrode 3 and overlapping the gate line, a portion of the storage electrode being laterally spaced a distance from the data line.

Go et al. fail to disclose a liquid crystal display device with

- a first portion of the pixel electrode being laterally spaced a first distance from the gate line;
- the pixel electrode including four corners being laterally spaced from the data and gate lines according to claims 11 and 12.

Stupp et al. teach (Fig. 3) disclose a liquid crystal display device with a first portion of the pixel electrode being laterally spaced a first distance from the gate line; the pixel electrode including the four corners being laterally spaced from the data and gate lines according to claims 11 and 12 for increasing storage capacitance without substantially reducing the optical transmission of the display and reducing parasitic capacitance at gate line, which deteriorates the picture quality.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a liquid crystal display device as Go et al. disclosed with a first portion of the pixel electrode being laterally spaced a first distance from the gate line; the pixel electrode including four sides and four corners, the four corners being laterally spaced from the data and gate lines for increasing storage capacitance without substantially reducing the optical transmission of the display and

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reducing parasitic capacitance of cross-talk between gate and data lines, which deteriorates the picture quality.

Allowable Subject Matter

Claim 3 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not anticipate obvious to one ordinary skill in the art of a liquid crystal display device further comprising (see attachment)

- the pixel electrode overlapping with data line and being laterally spaced a first distance of about 5 μ m from gate line;
- a storage electrode connected to the pixel electrode and overlapping the gate line, wherein a portion of the storage electrode is laterally spaced a second distance of about 5 μ m from the data line.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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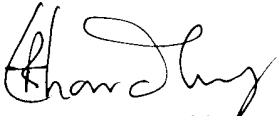
mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (703) 306-0472. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

HOAN C. NGUYEN
Examiner
Art Unit 2871

chn
April 14, 2003


T. Chandhury
Primary Examiner
Tech. Center 2800